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EXAMINER	
PO, MING CHEUNG	

ART UNIT	PAPER NUMBER
1771	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,192	Applicant(s) BROOKS ET AL.	
	Examiner MING CHEUNG PO	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35,37-39,41-44 and 48-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35,37-39,41-44 and 48-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 03/01/2011 has been entered.

Response to Request for Continued Examination

2. This is the response to Request for Continued Examination filed on 03/01/2011 for application 10/533192.

3. Claims 1-35, 37-39, 41-44, 48-51 are currently pending and have been fully considered. Claims 36, 40, and 45-47 have been cancelled.

4. The 35 U.S.C. 112 rejection of claim 47 has been with drawn in light of applicants' amendment.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-25, 27-35, 37, 43, 44 and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over WAUGH (US 4,936,045) in view of SMIT et al. (U.S.

4,582,512) and KINDIG et al. (U.S. 4,695,290).

Regarding claims 1, 29-30 and 45, WAUGH teaches a process for the preparation of demineralized coal in lines 55 - 68 of column 2, and in lines 1 - 13 of column 3, comprising the steps of:

(A) forming a slurry of coal particles, preferably at least 50% by weight of which particles having a maximum dimension of at least 0.5mm, with an aqueous solution of an alkali, which solution has an alkali content of from 5 to 30% by weight, such that the slurry has an alkali solution to coal ratio on a weight basis of at least 1:1 A ratio of 1:1 alkali solution to coal is evidence of a coal content of 5% to 30% by weight **((a) of present claim 1: forming a slurry of coal particles in an alkali solution, said slurry containing 10% - 30% by weight coal:);**

(B) maintaining the slurry at a temperature of from 150º to 300ºC, preferably 170ºC to 230ºC, for a period of from 2 to 20 minutes substantially under autogeneous hydrothermal pressure and rapidly cooling the slurry to a temperature of less than 100ºC **((b) of present claim 1: maintaining the slurry at a temperature of 150º - 250ºC under a pressure sufficient to prevent boiling);**

(C) separating the slurry in to alkalized coal and a spent alkali leachant solution **((c) of present claim 1: separating the slurry into an alkalized coal and a spent alkali leachant);**

(E) acidifying the alkalized coal by treatment with an aqueous solution of sulfuric or sulphurous acid to yield a slurry having a pH of from 0.4 to 1.4 and a conductivity of from 10,000 to 100,00 us **((d) of present claim 1: forming an acidified slurry of the**

alkalized coal, said slurry having a pH of 0.5 – 1.5);

(F) separating the slurry into acidified coal and a spent acid leachant solution **((e) of present claim 1: separating the acidified slurry into a coal-containing fraction and a substantially liquid fraction);** and

(G) washing the acidified coal.

WAUGH further elaborates in lines 25 – 38 of column 5 that the acidified coal with be first washed with a fresh acid solution of about pH 1. A specific example is given in lines 7 – 14 of column 6. A coal filter cake after acidification was treated with 0.1M sulphuric acid and maintained at pH of 1 with sufficient water **((f) of present claim 1: subjecting the coal-containing fraction to a washing step in which the coal-containing fraction is mixed with water and a polar organic solvent or water and an organic acid to form a mixture).**

The mixture is then taught in lines 10 - 11 to be filtered **((g) of present claim 1: separating the coal from the mixture in step (f)).**

WAUGH teaches in lines 3-13 of column 2 leaching powdered coal with hot alkaline solution and then successively with aqueous sulphuric acid can reduce concentrations of iron, titanium and silicon.

WAUGH does not seem to explicitly state the acidified coal in step (G) is washed in a hydrothermal washing step comprising mixing the coal-containing fraction with water and a polar organic solvent or an organic acid and heating the mixture to a temperature of from 150ºC to 280ºC under a pressure sufficient to prevent boiling.

However, SMIT et al. teaches a process for removal of ash and pyrite

constituents from coal by contact with leaching liquids which successively are caustic solution, acid solution and pressure water wash.

The pressure water wash step is taught in lines 30-47 of column 4 at around 230ºC and under pressure. The pressure is taught in lines 20-30 of column 3 to be steam pressure.

It would be obvious to one of ordinary skill in the art to apply the pressure water wash step after the acid leach step in the process that WAUGH teaches.

The motivation to do so can be found in lines 30-44 of column 4. SMIT et al. teaches that a high temperature water leach can reduce the residual sodium and chlorine content of the coal and small but significant amounts of sodium and chlorine are absorbed in the fine pore structure of the coal and cannot be removed at atmospheric pressure, regardless of how thoroughly coal is washed.

SMIT et al. does not seem to explicitly teach including a polar organic solvent or an organic acid.

However, KINDIG et al. teaches a process for the continuous removal of contaminants from coal that comprises leaching coal with hydrochloric acid. KINDIG et further teaches in lines 19-40 of column 14 of washing the coal product after acid leaching with water and various compounds such as acetic acid, nitric acid, alcohol (90 % **ethanol**, 5% **methanol**, and 4% isopropyl) **(polar organic solvent)**, and ammonium hydroxide and by heating to below boiling point.

It would be obvious to one of ordinary skill in the art to add the various compounds that KINDIG et al. teaches to the high temperature water leach step that

SMIT et al teaches under pressure to maintain the mixture below boiling point.

The motivation to do so can be found in lines 19-40 of column 14 of KINDIG et al. KINDIG et al. teaches that the addition of the various compounds can effect additional halogen removal.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claims 2 and 3, WAUGH teaches in lines 53 – 66 of column 5 that the particle size of the coal provided is 200μm **(coal provided to step (a) of present claim 1 is 100% less than 1mm and 100% less than 0.5 mm).**

Regarding claim 4, WAUGH does not seem to explicitly state that the coal provided in step (a) of present claim 1 contains 5% by weight smaller than 20 microns) Regarding claim 4, WAUGH does not appear to explicitly disclose the coal provided in present step (a) contains 5% by weight smaller than 20 microns.

It would be obvious to one of ordinary skill in the art at the time of the invention to use coal that is 5% by weight smaller than 20 microns with a reasonable expectation of success.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 5 and 6, WAUGH teaches in lines 40 - 53 of column 7 that the slurry concentration may be 29% **(slurry formed in step (a) of present claim 1has a coal concentration of from 10% to 30% by weight and about 25% by weight).**

Regarding claims 7 and 8, WAUGH teaches in lines 43 - 46 of column 3 that the

alkali concentration should preferably in the range of 5% to 20% **(range of 8% to 20% by weight and from 13% to 15% by weight).**

Regarding claim 9, WAUGH teaches in lines 47 – 57 of column 3 that temperatures of 150ºC – 300℃ are feasible, temperature of 170º -230ºC are usually adequate **(150º – 250℃).**

Regarding claim 10, WAUGH teaches in lines 68 of column 3, and lines 1-3 of column 4, that residence times of an hour or more are not excluded and may be appropriate when low alkaline leaching temperatures are chosen **(60 minutes).**

Regarding claim 11, WAUGH does not appear to explicitly disclose that the slurry from present step (b) is maintained at a rate of less than 2℃ per minute in the temperature range of 150ºC to 250℃.

However, it would be obvious to one of ordinary skill in the art at the time of the invention to optimize the rate at less than 2℃ per minute in the temperature range of 150ºC to 250℃ with a reasonable expectation of success (see MPEP 2144.05).

Regarding claim 12, WAUGH teaches in lines 64- 68 of column 2 that the slurry is substantially under autogeneous hydrothermal pressure **(autogeneous pressure to prevent the slurry from boiling)**.

Regarding claim 13, WAUGH teaches in lines 27 – 30 of column 6 that the slurry was recovered at 80℃ **(80℃)**

Regarding claim 14, WAUGH teaches in lines 27 – 29 of column 6 that the slurry was heated to 200ºC and then cooled to 80ºC in 1.5 hrs.

WAUGH does not appear to explicitly disclose that the slurry from present step

(b) is cooled to a temperature of from 30º – 80°C at a cool rate of less than 20°C/minute and at 2°C per minute whilst the temperature of the slurry is in the range of 240ºC – 150°C.

However, it would be obvious to one of ordinary skill in the art at the time of the invention to optimize the cooling period at a uniform rate of with a reasonable expectation of success (see MPEP 2144.05).

Regarding claim 15, WAUGH teaches in lines 67 - 68 of column 5 that the slurry was washed with water to remove excess alkali **(the alkalized coal recovered is washed to remove excess alkali).**

Regarding claim 16, WAUGH teaches in lines 37 - 48 of column 4 that the alkalized coal and spent leachant should preferably be separated quickly. The spent leachant is mixed with calcium oxide or calcium hydroxide to precipitate the soluble silicate and aluminate ions as their insoluble calcium salts **(treated to remove sodium aluminosilicates therefrom prior to sending to step (d) of present claim 1)**.

Regarding claims 17 and 18, WAUGH does not seem to explicitly disclose mixing the coal from step (d) with water or an acid solution to obtain a slurry having a coal concentration that falls within the range of 5% to 20% by weight and about 10% by weight.

However, SMIT teaches in lines 16 – 17 of column 3 of a coal slurry with solids concentration of about 10% to about 30% by weight. The slurries are taught in lines 67 -68 of column 2 and lines 1 – 4 of column 3 to be leached with acid solution.

It would be obvious to one of ordinary skill in the art to make the slurry that

WAUGH teaches with the concentration of about 10% to about 30% by weight that SMIT teaches.

The motivation to do so can be found in lines 15 – 19 of column 3 of SMIT. SMIT teaches that the solids concentration is important. If too high, the agitation is difficult and too low, leaching is inefficient; about 10% to about 30 % is satisfactory.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 19, WAUGH teaches in lines 62 - 64 of column 4, the alkalized coal is acidified with a mineral acid **(mineral acid).**

Regarding claim 20, WAUGH teaches in lines 7 - 10 of column 3 that the alkalized coal is acidified with an aqueous solution of sulphuric or sulphurous acid **(sulphuric acid).**

Regarding claims 21 and 22, WAUGH teaches in lines 7 - 15 of column 5, the alkalized coal is acidified to a pH of about 1 as rapidly as possible. It is desirable to add the alkalized coal to an acidic solution of sufficient concentration to ensure that the reusing mixture in maintained as close as possible to pH 1 **(slurry has a pH that falls in the range of 0.5 to 1.5 and specifically about 1.0)**.

Regarding claim 23 and 24, WAUGH does not appear to give the temperature of the slurry in present step (d). However, ambient temperature is from 20 to 23.5°C and WAUGH teaches in lines 64 – 65 of column 5 that the slurry is cooled to room temperature after alkalization and not heated again. Therefore the slurry is inherently with in the range from 20ºC to 90°C as well as falling within the range of 30 to 60°C.

Regarding claim 25, WAUGH teaches in lines 7 – 13 of column 6 that the coal was treated with 0.1M sulphuric acid and maintained at pH of 1 with sufficient water and then stirred for 45 minutes **(for a period of at least one minute).**

Regarding claims 27 – 28, WAUGH does not appear to explicitly disclose re-slurrying the coal fraction from step (e) is re-slurried with water and acid and brought to a pH of between 0.5 and 1.0 for a further period of greater than 1 minute.

However, it is well known in the art that re-slurrying can be used to result in a product that is more pure.

Therefore, it would be obvious to one of ordinary skill in the art to reslurry the coal fraction from step (e) with water and acid and brought to a pH of between of 0.5 and 1.0 for a further period of time of greater than 1 minute between one and four times.

Regarding claims 31-32, WAUGH does not seem to explicitly disclose the coal mixed with water and a polar organic solvent such that a slurry having solids content of 10% to 30% by weight is formed.

However, SMIT teaches in lines 16 – 17 of column 3 of a coal slurry with solids concentration of about 10% to about 30% by weight. The slurries are taught in lines 67-68 of column 2, and lines 1 – 4 of column 3, to be leached with acid solution.

It would be obvious to one of ordinary skill in the art to make the slurry that WAUGH teaches with the concentration of about 10% to about 30% by weight that SMIT teaches.

The motivation to do so can be found in lines 15 – 19 of column 3 of SMIT. SMIT teaches that the solids concentration is important. If too high, the agitation is difficult

and too low, leaching is inefficient. About 10% to about 30% is satisfactory.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claims 33-35, SMIT et al. does not seem to explicitly teach that the slurry is heated to a temperature of from 240 to 280ºC during the high temperature water leach step or that the rate of the slurry is heated at a heating rate of between 2ºC per minute and 20ºC per minute.

However, SMIT et al, does teach the conditions of the water leach step in line 45 of column 4 and in lines 20-30 of column 3. SMIT et al. teaches the leaches may be performed for 1 hour at 230ºC. SMIT et al. also teaches in lines 20-30 of column 3 that the temperature for the pressure water step may be at least about 175 up to 350ºC.

It would be obvious to one of ordinary skill in the art to perform the water leach step at 240ºC to 280ºC for a period of between 1 minute and 60 minutes since it has been held that where the general conditions are known, optimization or workable ranges involve only routine experimentation to one of ordinary skill in the art. See *In re Aller,* 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 37, applicant is reminded that claim 37 is dependent on claim 1 and it is possible that the polar organic solvent is used instead of citric acid.

Regarding claim 43, WAUGH teaches in lines 37 – 39 of column 5 that the final washing of the acidified coal is carried out with water which may be deionized **(coal**

recovered from step (g) is washed with water).

Regarding claim 44, KINDIG does not seem to explicitly disclose that an ash content of 0.01 – 0.2% could be reached.

However, KINDIG teaches in Test No. 20 in Table 6 that the aqueous HCL leaching can result in an ash content of 0.15% after 30 minutes **(demineralised coal recovered from step (g) has an ash content of from 0.01 - 0.2% by weight)**.

It would be obvious to one of ordinary skill in the art to leach the coal-containing fraction that WAUGH teaches with the process that KINDIG teaches involving hydrofluoric acid preleach, a hydrochloric leach, another hydrochloric leach and then washed and drained.

The motivation to do so can be found in lines 31 - 35 of column 5, and lines 56 – 58 of column 5, of KINDIG. KINDIG teaches that hydrofluoric leaches are especially effective in treating silicates and aluminosilicates and that hydrochloric leaches are especially effective in treating calcium and remaining aluminum.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 48 and 49, WAUGH teaches in lines 43 - 51 of column 4 that the spent leachant is mixed with sufficient calcium oxide or calcium hydroxide to regenerate the alkaline leachant for recycling while simultaneously precipitating the soluble silicate and aluminate ions as their insoluble calcium salts **(the spent alkali leachant is treated to regenerate caustic and to recover minerals using calcium oxide or calcium hydroxide)**.

Regarding claim 50, the spend leachant is the liquid fraction of step (e) **(liquid fraction of (e) is treated to regenerate a caustic solution and to recover minerals)**.

Regarding claim 51, WAUGH teaches in lines 43 - 54 of column 4 that the spent leachant may be mixed with magnesium salts such as the mixed oxides or hydroxides of calcium and magnesium derived from dolomite **(calcium oxide, calcium hydroxide, magnesium oxide, magnesium hydroxide or mixed oxides or hydroxide of calcium and magnesium derived from dolomite).**

Claim Rejections - 35 USC § 103

7. Claims 26 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over WAUGH (US 4,936,045)) in view of SMIT et al. (U.S. 4,582,512) and KINDIG et al. (U.S. 4,695,290) and SCHAPIRO (US 4,618,346).

The above discussion of WAUGH in view of SMIT et al. and KINDIG et al., is incorporated herein by reference.

WAUGH does not seem to explicitly teach that the coal is maintained in contact with the acid solution in step (d) for at least a period of about 60 minutes.

However, SCHAPIRO teaches in lines 37 - 45 of column 4 that it is possible to leach minerals for a period up to 24 hours.

It would be obvious to one of ordinary skill in the art to optimize the period of time that the coal is in contact with the solution (see MPEP 2144.05).

Regarding claims 29 – 30, WAUGH does not seem to explicitly disclose mixing the coal-containing fraction with a solution of water and an alcohol selected from ethanol, methanol, propanol or mixtures thereof.

However, SCHAPIRO teaches in lines 50 – 60 of column 3 that an alcohol solution containing between one and four carbons is added to the coal to swell coal.

The motivation to do so can be found in the same lines. The alcohol is taught to enhance mineral removal by swelling the pores and wetting the surface of the coal.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Claim Rejections - 35 USC § 103

8. Claims 37-39, and 41 - 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over WAUGH (US 4,936,045) in view of SMIT et al. (U.S. 4,582,512) and KINDIG et al. (U.S. 4,695,290) and KAMINO (US 4,424,062).

The above discussion of Modified WAUGH is incorporated herein by reference.

Regarding claim 37, WAUGH does not appear to explicitly state a washing step where the coal-containing fraction is mixed with water and an organic acid selected from citric acid.

However, KAMINO teaches that 2.0 to 10.0% of citric acid in lines 23 – 26 of column 4 maybe be used in a coal deashing process in an aqueous solution as explained in lines 24 - 30 of column 2.

It would be obvious to one of ordinary skill in the art at the time of the invention to use the 2.0 to 10.0 % citric acid solution that KAMINO teaches to wash the coal containing fraction after present step (f).

The motivation to do so can be found in lines 53- 50 of column 2. KAMINO teaches that the process is a higher efficiency than standard processes and the

operation can be carries out with very high safety.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claims 38 and 39, WAUGH teaches in lines 47 – 57 of column 3 that temperatures of 150ºC – 300ºC are feasible, temperature of 170º -230ºC are usually adequate **(150º – 250ºC and 140ºC and 160ºC).**

Regarding claim 41, WAUGH teaches in lines 68 of column 3, and lines 1-3 of column 4, that residence times of an hour or more are not excluded and may be appropriate when low alkaline leaching temperatures are chosen **(60 minutes).**

Regarding claim 42, WAUGH does not seem to explicitly disclose a heating rate of between 2ºC per minute and 20ºC per minute.

However, it would be obvious to one of ordinary skill in the art to optimize the heating rate.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

9. Applicants' arguments filed 03/01/2011 have been fully considered but they are not persuasive.

Applicants argue that WAUGH in view of SMIT and KINDIG does not teach a hydrothermal washing step to remove Si, Fe, and/or Ti from the coal. However, SMIT does teaches a hydrothermal washing step. WAUGH teaches a process to demineralize coal with a washing step in step (G) of the reference. WAUGH teaches in

lines 66-68 of column 1, and lines 1-13 of column 2, that minerals in coal that would be beneficially removed include iron, silicon, and titanium. A method is taught in which coal is leached with aqueous alkaline solution at temperatures of up to 300ºC under pressure and then treated with aqueous sulphuric acid. Given that the minerals have already been previously treated and acidified, one of ordinary skill in the art would expect that a washing step would wash out the Ti, Fe, and Si that has been dissolved by the acid. WAUGH does not teach any limitation in terms of the water washing step in lines 25-40 of column 5. One of ordinary skill in the art would expect that the washing step that SMIT teaches will remove the Si, Ti and Fe that is dissolved.

Applicants argue that KINDIG teaches the use of acetic acid, nitric acid, alcohols or ammonium hydroxide at low temperature. KINDIG teaches in lines 19-39 of column 14 that the washing step is heated to below the boiling point of water or the solutions of acetic acid, nitric acid, alcohols or ammonium hydroxide. It is known to one of ordinary skill in the art how to apply pressure to keep a mixture from reaching the boiling point. SMIT teaches that the water wash is preformed under pressure. The combination of alcohols that KINDIG is still a polar organic solvent.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MING CHEUNG PO whose telephone number is (571)270-5552. The examiner can normally be reached on 9:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ming Cheung Po/
Patent Examiner
AU: 1771

/Ellen M McAvoy/
Primary Examiner, Art Unit 1771